

REMARKS

In response to the Official Action mailed March 26, 2003, Applicants propose to amend their application and request reconsideration in view of the proposed amendment and following remarks. It is proposed to cancel non-elected claim 9 as well as claim 6, leaving claims 1, 2, 5, and 8 pending.

Claims 1 and 2 are allowed.

In this Amendment it is proposed to rewrite claim 6 in independent form as amended claim 5. Claim 8 is left pending as well. The combination of limitations presented by claim 5 upon entry of the Amendment is identical to previously amended claim 6. The limitation added by claim 8 makes that claim identical to former claim 7. Therefore, no new issues can be raised by claims 5 and 8 as now presented.

Amended claim 5 and claim 8 were rejected as unpatentable over Von Stein (U.S. Patent 5,886,595). This rejection is again respectfully traversed as to amended claim 5.

With regard to claim 6, the Official Action of November 6, 2002 commented on that claim and claim 2 in the same way. In the Official Action, the limitation of claim 6 was dismissed as an obvious design choice that is the result of routine experimentation. This rejection is respectfully traversed.

The numerical limitations of examined claim 6, which are part of claim 5 as presented here, are supported in the patent application from page 5, line 25 through page 6, line 22. That passage points out, with respect to Figure 2, the very high power load efficiency of the third harmonic achieved with the phase angle range and reflection coefficient mentioned in amended claim 5. In other words, this passage, in combination with Figure 2, demonstrates the criticality of the ranges expressed in amended claim 5, i.e., original claim 6, and demonstrates that the claimed subject matter is not merely the result of routine experimentation. Therefore, reconsideration of the rejection with respect to amended claim 5 is respectfully requested.

With regard to claim 8, neither the final rejection nor the Official Action mailed November 6, 2002 pointed out where in Von Stein one can find an input-side impedance matching circuit comprising a third harmonic reflecting circuit, a second harmonic processing circuit, and a fundamental wave matching circuit, disposed sequentially from the signal input terminal. The Official Action mailed November 6, 2002 asserted that these circuits are "inherent" in Von Stein. However, there is no explanation as to the inherency of these circuits. Inherency requires that the claimed elements must be present in the prior art structure by the very nature of a structure disclosed in a reference. There is no express description in Von Stein of the presence of the four circuits connected in series at the input

terminal and the measured data supplied in Von Stein does not support the assertion that the circuits are present, even if not expressly described.

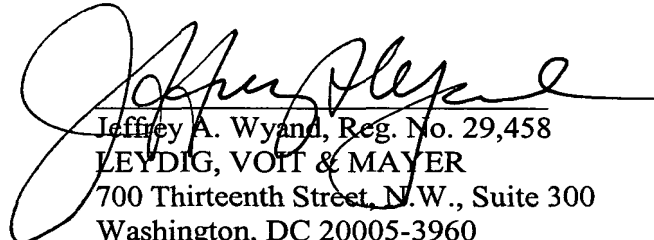
The circuit of Von Stein is a frequency multiplier and produces from a fundamental signal with a frequency f_0 , an output signal at a frequency $n f_0$, i.e., multiplies the frequency of the fundamental signal by the integer n . The only discussion in Von Stein concerning an input-side impedance matching network concerns the network 18 illustrated in Figure 1 of Von Stein. The limited discussion of that network appears in column 3 of Von Stein. Von Stein expressly states that the open stub 38 is resonant at the frequency $n f_0$ and functions as a short circuit for that signal. Von Stein's input impedance matching circuit 18 also includes two other stubs that are not given numbers in Figure 1 of Von Stein and are not even mentioned in Von Stein. The Smith chart shown in Figure 2A of Stein indicates measurements for a frequency multiplier multiplying the fundamental frequency by a factor of nine. Other examples of frequency multipliers in Von Stein indicate frequency multipliers of three and five.

The stub 38 in the input impedance matching circuit of Von Stein functions as a short circuit for an odd harmonic of the fundamental frequency. This stub cannot be the third harmonic reflecting circuit of the input-side impedance matching circuit of claim 8. The stub 38 of Von Stein does not reflect the third harmonic, assuming a frequency multiplier of three, as does the third harmonic reflecting circuit of claim 8. Rather, Von Stein's stub 38 absorbs the odd harmonic produced by the Von Stein frequency multiplying circuit. Even if, solely for the sake of argument, it were assumed that the stub 38 of Von Stein functions as a third harmonic reflecting circuit, there is no disclosure and no suggestion that the other two stubs of the Von Stein input impedance matching circuit 18 could be considered a second harmonic processing circuit or a fundamental wave matching circuit. In other words, there is no basis for the rejection based upon "inherency". The elements expressly described in Von Stein have neither the structure nor the function of the elements of the input-side impedance matching circuit described in claim 8. Moreover, there is no suggestion in Von Stein that would motivate one of skill in the art to modify Von Stein to meet the terms of claim 8. The rejection of claim 8 cannot be properly maintained.

In re Appln. of GOTOU et al.
Application No. 09/881,665

Reconsideration and withdrawal of the rejection as to amended claims 5 and 8, so that claims 1, 2, 5, and 8 are allowed, is earnestly solicited.

Respectfully submitted,



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